

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-2 and 4-10 are present in this application. Claim 1 is amended and claim 3 is canceled by way of the present amendment.

Claims 1-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. 6,031,326 (Suzuki) in view of U.S. 5,677,590 (Matsuda).

Before addressing the prior art rejection, the Applicants would like to provide the following discussion. The apparatus as recited in claim 1 has a first electrode member with electron beam passage holes and a projecting portion. When a maximum diametrical dimension of each electron beam passage hole in a horizontal direction including a center axis of the electron beam passage hole is set at 100%, the projecting portion is formed in a region other than a region corresponding to 50% of the maximum diametrical dimension, with the center of this 50% dimension being set at the center axis of the electron beam passage hole. With such a first electrode member, a magnetic field generated by a velocity modulation coil can be made to effectively act on the electron beams, and the degradation of the velocity modulation effect can be suppressed.

To be more specific, it is desirable for the projecting portion to be formed at a region where the magnetic field generated by the velocity modulation coils does not act on the electron beams, as disclosed from line 10 of page 14 to line 15 of page 16 of the specification. If a projecting portion is formed in a region where the electron beam mainly passes, the eddy current suppression effect will decrease. Accordingly, the apparatus in claim 1 recites a location of the projecting portion, so that the projecting portion does not block the passage of the magnetic field acting on the electron beam in a vertical direction. Turning to the prior art rejection, as correctly noted in the Office Action, Suzuki et al. does not disclose that the first electrode member has a projecting portion on an end face thereof.

The Office Action then explains how Matsuda et al. discloses projections 1d and 1e. However, it is respectfully submitted that Matsuda et al. does not disclose the location of the projections recited in claim 1. There is clearly no disclosure of an apparatus with an electrode member having electron beam passage holes, where when a maximum diametrical dimension of each electron beam passage hole in a horizontal direction including a center axis of the electron beam passage hole is set at 100%, the projecting portion is formed in a region other than a region corresponding to 50% of the maximum diametrical dimension, with the center of this 50% dimension being set at the center axis of the electron beam passage hole, as recited in claim 1. There is further no discussion of any desirability or advantageous effect of locating the projections according to claim 1. It is respectfully submitted that the structure recited in claim 1 is unobvious over the two references, and can produce the advantages not suggested in the references. Therefore, even if Suzuki et al. is combined with Matsuda et al., the combination fails to disclose the apparatus of claim 1.

It is respectfully submitted that claims 1-2 and 4-10 are in condition for allowance, and a favorable decision to that effect is respectfully requested.

Respectfully submitted,

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